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## Document Number 3

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File:DERWENT

June 16, 1999

DERWENT-ACC-NO: 1993-167258

DERWENT-WEEK: 199320

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### TITLE:

Mfr. of mesoscopic semiconductor structures - by depositing semiconductor materials into nano:channel arrays formed from an inert glass block contg. submicron rods of acid etchable glass

INVENTOR:JUSTUS, B L; TONUCCI, R J ; TONUCCI, R

PATENT-ASSIGNEE: US SEC OF NAVY[USNA], US DEPT OF THE NAVY[USNA]

PRIORITY-DATA: 1992US-0897638 (June 12, 1992) , 1993US-0053752 (April 29, 1993)

### PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 7897638 A	April 15, 1993	N/A	000	H01L 000/00
US 5264722 A	November 23, 1993	N/A	021	H01L 027/12
US 5306661 A	April 26, 1994	N/A	021	H01L 021/20
WO 9326045 A1	December 23, 1993	E	046	H01L 027/12

DESIGNATED-STATES: CA DE GB JP

CITED-DOCUMENTS: US 4021216; US 4101303 ; US 4246016 ; US 4606960 ; US 4868622 ; US 5059001 ; US 5134095 ; US 5147721 ; US 5159231 ; US 853020

### APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
US 7897638A	N/A	1992US-0897638	June 12, 1992
US 5264722A	N/A	1992US-0897638	June 12, 1992
US 5306661A	Div ex	1992US-0897638	June 12, 1992
US 5306661A	N/A	1993US-0053752	April 29, 1993
US 5306661A	Div ex	US 5264722	N/A
WO 9326045A1	N/A	1993WO-US04564	May 19, 1993

IPC: C03C017/00; C03C027/00 ; H01L021/20 ; H01L027/12 ; H01L045/00

ABSTRACTED-PUB-NO:US 5264722A

BASIC-ABSTRACT:Device is mfd. by: forming a glass block of acid inert glass having acid etchable glass rods of dia. less than 1 micron extending through it; partially etching one end of the block to form cavities in the block surface of average dia. less than 1 micron; and depositing material(s) in the cavities to form a semiconductor device. USE/ADVANTAGE - In mfr. of e.g. high resolution near field array detectors and emitters,

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June 16, 1999

DERWENT-ACC-NO: 1996-210293

DERWENT-WEEK: 199622

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**TITLE:**

Strain gauge unit for esp. scanning microscope probe semiconductor lever arm  
- has MOSFET acting as signal source with source-drain voltage variation,  
with constant source-drain current, being measured and with gate voltage  
acting as regulating variable

INVENTOR: JUMPERTZ, R; OHLSSON, O ; SAURENBACH, F ; SCHELLEN, J

PATENT-ASSIGNEE: FORSCHUNGSZENTRUM JUELICH GMBH[KERJ], NANOSENSORS WOLTER  
GMBH OLAFBH[NANON], SURFACE IMAGING SYSTEMS GMBH[SURFN]

PRIORITY-DATA: 1994DE-4437306 (October 19, 1994)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4437306 A1	April 25, 1996	N/A	008	G01B 007/16
DE 4437306 C2	March 6, 1997	N/A	010	G01B 007/16
WO 9612935 A1	May 2, 1996	G	026	G01L 009/00

CITED-DOCUMENTS: 3.Jnl.Ref; EP 441324 ; FR 2143553 ; JP 2184728

**APPLICATION-DATA:**

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
DE 4437306A1	N/A	1994DE-4437306	October 19, 1994
DE 4437306C2	N/A	1994DE-4437306	October 19, 1994
WO 9612935A1	N/A	1995WO-DE01446	October 14, 1995

IPC: G01B007/16; G01B007/34 ; G01D005/18 ; G01L001/22 ; G01L009/00 ;  
G01P015/12 ; H01L029/78 ; H01L029/84

ABSTRACTED-PUB-NO: DE 4437306A

BASIC-ABSTRACT: The strain gauge includes a semiconductor material secured signal source and at least one MOSFET (10-13). The MOSFET electrical signals represent a measure of the strain caused by alternating movements between the material surface and a scanning tip in the semiconductor material. The source drain current (ID) is maintained constant source to provide a constant source drain current. The gate voltage (UG) of the MOSFET serves as the regulating variable. Variations of the drain voltage (UD) or the source drain voltage is measured as a measure for the strain in the MOSFET channel. USE/ADVANTAGE - For single crystal semiconductor material. Expansion or strain of semiconductor material is indicated with high sensitivity, namely signal with small interference component is transmitted. Suitable for silicon or Germanium.

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File:DERWENT

June 16, 1999

DERWENT-ACC-NO: 1990-380926

DERWENT-WEEK: 199051

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### TITLE:

Crystal resonator protein sensor - comprises protein binding dye immobilised film on crystal resonator

PATENT-ASSIGNEE: NOK CORP[NIOD]

PRIORITY-DATA: 1989JP-0098436 (April 18, 1989)

### PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 02276966 A	November 13, 1990	N/A	000	N/A

### APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP02276966A	N/A	1989JP-0098436	April 18, 1989

IPC: G01N033/48

ABSTRACTED-PUB-NO:JP02276966A

BASIC-ABSTRACT:A crystal resonator protein sensor comprises a protein-binding dye immobilised film on the surface of crystal resonator. Pref. the protein-binding dye is synthetic or natural dye such as Coomassie Brilliant Blue G250, Ponceau 3R, Nigrosine, Amide Black 10B, Xylene Brilliant Cyanine G, Naphthalene Blue Black, etc.. An above. 5 MHz vibration frequency is pref. used. As the frequency of crystal resonator changes depending on the change in the weight of a substance adsorbed on the surface of the resonator, the amt. of protein bound with the dye immobilised in the film on the surface can be accurately determined. A correlation exists between the change of the frequency and the concn. of protein soln. to be adsorbed. The formation of the immobilised dye film on the surface of crystal resonator is carried out by applying a 1-10% aq. soln. of gamma-aminopropyl triethoxysilane to the surface of crystal resonator, drying, immersing in a 0.1-5% glutaraldehyde aq. soln. for 1-24 hrs., and then immersing it in a 1-5% dye soln. for 1-24 hrs.. Silver electrode and lead wires are provided on the crystal resonator. USE/ADVANTAGE - Useful for detecting and simply determining a protein, e.g. protein derived from living body such as bovine serum albumin, bovine gamma-globulin, etc.. As the sensor has a very simple structure, it can be made at low cost and the determination is simple. @ (3pp DWg.No.0/0)

### TITLE-TERMS:

CRYSTAL RESONANCE PROTEIN SENSE COMPRISE PROTEIN BIND DYE IMMOBILISE FILM

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June 16, 1999

DERWENT-ACC-NO: 1996-139109

DERWENT-WEEK: 199902

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**TITLE:**

Electrochemical identification of molecules on sample surface in scanning probe microscope e.g. AFM or STM - by applying bias voltages across sample via backing electrode, causing oxidation or reduction of chemical on sample surface, and looking up tables of redox potentials at bias voltage and position datum at which high current is measured

INVENTOR:JING, T; LINDSAY, S M

PATENT-ASSIGNEE: MOLECULAR IMAGING CORP[MOLEN]

PRIORITY-DATA: 1995US-0399968 (March 7, 1995) , 1995US-0388068 (February 10, 1995)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 10511184 W	October 27, 1998	N/A	045	G01N 037/00
US 5495109 A	February 27, 1996	N/A	012	H01J 037/25
WO 9624946 A1	August 15, 1996	E	067	H01J 037/20
WO 9627895 A1	September 12, 1996	E	024	N/A
EP 809858 A1	December 3, 1997	E	000	H01J 037/20

DESIGNATED-STATES: JP KR AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE JP K  
R AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE DE FR GBCITED-DOCUMENTS: US 34489; US 4992728 ; US 5500535 ; US 5513518 ; US 5515719  
; US 4868396 ; US 5120959**APPLICATION-DATA:**

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
JP10511184W	N/A	1996JP-0524378	February 5, 1996
JP10511184W	N/A	1996WO-US01592	February 5, 1996
JP10511184W	Based on	WO 9624946	N/A
US 5495109A	CIP of	1995US-0388068	February 10, 1995
US 5495109A	N/A	1995US-0399968	March 7, 1995
WO 9624946A1	N/A	1996WO-US01592	February 5, 1996
WO 9627895A1	N/A	1996WO-US02738	February 29, 1996
EP 809858A1	N/A	1996EP-0907867	February 5, 1996
EP 809858A1	N/A	1996WO-US01592	February 5, 1996
EP 809858A1	Based on	WO 9624946	N/A

IPC: G01B021/30; G01N037/00 ; H01J037/20 ; H01J037/252

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June 16, 1999

DERWENT-ACC-NO: 1998-032795

DERWENT-WEEK: 199907

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**TITLE:**

Sensing device for measuring analyte in piezoelectric resonator - measures changes in electrical properties of coated piezoelectric resonator in presence of analyte, having resonant frequencies and antiresonant frequencies

INVENTOR:EVERHART, D S; JOSSE, F J

PATENT-ASSIGNEE: KIMBERLY-CLARK WORLDWIDE INC[KIMB]

PRIORITY-DATA: 1996US-0654993 (May 29, 1996)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5852229 A	December 22, 1998	N/A	000	G01N 027/00
WO 9745723 A1	December 4, 1997	E	055	G01N 029/02
AU 9730725 A	January 5, 1998	N/A	000	G01N 029/02

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES F  
I GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO  
NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN AT BE CH DE DK EA ES FI  
FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG

**APPLICATION-DATA:**

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
US 5852229A	N/A	1996US-0654993	May 29, 1996
WO 9745723A1	N/A	1997WO-US08522	May 20, 1997
AU 9730725A	N/A	1997AU-0030725	May 20, 1997
AU 9730725A	Based on	WO 9745723	N/A

IPC: G01N027/00; G01N029/02

ABSTRACTED-PUB-NO:US 5852229A

BASIC-ABSTRACT: The piezoelectric resonator (10) has circular upper and lower electrodes on a quartz base.. The upper electrode has a smaller diameter than the lower electrode. A polymeric layer is placed over the sensing electrode, with the layer being larger than the electrode. The composition of the polymeric layer is such as to selectively bind or to react with an analyte of interest. The polymeric layer may change in viscoelasticity, or may change in mass, either increasing or decreasing in mass in response to the analyte in the medium, or may change in conductivity or in dielectric constant. The polymeric composition may contain a molecule

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File:DERWENT

June 16, 1999

DERWENT-ACC-NO: 1997-132789

DERWENT-WEEK: 199825

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## TITLE:

Determn. of recognition pair binding for immuno-sensor - including piezoelectric crystal probe carrying immobilised binding member, changing frequency after binding with other member

INVENTOR:COHEN, Y; DAGAN, A ; KATZ, E ; LEVI, S ; WILLNER, I

PATENT-ASSIGNEE: YISSUM RES &amp; DEV CO[YISS]

PRIORITY-DATA: 1995IL-0114692 (July 21, 1995)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 843816 A2	May 27, 1998	E	000	G01N 033/54
WO 9704314 A2	February 6, 1997	E	065	G01N 033/54
AU 9663178 A	February 18, 1997	N/A	000	G01N 033/54
WO 9704314 A3	May 22, 1997	N/A	000	G01N 033/54

DESIGNATED-STATES: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL P  
T SE SI AL AM AT AU AZ BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL  
IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD  
SE SG SI SK TJ TM TR TT UA UG US UZ VN AT BE CH DE DK EA ES FI FR GB GR IE I  
T KE LS LU MC MW NL OA PT SD SE SZ UG

CITED-DOCUMENTS: 4.Jnl.Ref; EP 668502 ; WO 8909937 ; WO 9105261 ; WO 9402852

## APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
EP 843816A2	N/A	1996EP-0922207	July 16, 1996
EP 843816A2	N/A	1996WO-IL00049	July 16, 1996
EP 843816A2	Based on	WO 9704314	N/A
WO 9704314A2	N/A	1996WO-IL00049	July 16, 1996
AU 9663178A	N/A	1996AU-0063178	July 16, 1996
AU 9663178A	Based on	WO 9704314	N/A
WO 9704314A3	N/A	1996WO-IL00049	July 16, 1996

IPC: G01N033/543

ABSTRACTED-PUB-NO:WO 9704314A

BASIC-ABSTRACT:Determn. (A) of binding between two members (M1,M2) of a recognition pair comprises: (a) a probe consisting of a piezoelectric crystal (PEC), electrodes on two opposite faces of PEC and at least 1 metal

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